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New record of the ectoparasite insect *Speiseria ambigua* Kessel, 1925 (Diptera: Streblidae) of *Platalina genovensium* Thomas, 1928 (Chiroptera: Phyllostomidae) from Peru

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Abstract: *Platalina genovensium* Thomas, 1928, the largest Lonchophyllinae, is a highly specialized phyllostomid bat that feeds primarily on columnar cacti and is listed as Near Threatened by the IUCN. Here we report a new record of an ectoparasite insect for *Platalina*, *Speiseria ambigua* Kessel, 1925 (Diptera: Streblidae), obtained from a bat inventory carried out in northwestern Peru. Additionally this record represents the northernmost record of *Sp. ambigua* in Peru.

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The genus *Platalina* is known from few localities west of the Andes in Peru and northern Chile, with the exception of two records from the department of Huánuco in central Peru (Velazco *et al.* 2013). Its elevational range goes from near sea level up to 2,566 m above sea level. Its only species, *Platalina genovensium*, the largest Lonchophyllinae, is a highly specialized phyllostomid bat that feeds primarily on columnar cacti. *Platalina* is listed as Near Threatened by the IUCN. The main threats to this species are: decline of columnar cacti populations, mainly due to the expansion of the urban areas; disturbance of caves (roost sites) along its entire distribution; and an increase in hunting pressure for medicinal purposes. *Platalina genovensium* is parasitized by insects of the family Streblidae (Diptera) (Wenzel 1976). The members of this family are cosmopolitan, hematophagous, and obligate parasites of bats (Wenzel *et al*. 1966). Herein we present a new record of an ectoparasite insect for *Platalina*.

During an inventory carried out in 2012 in northwestern Peru, two specimens of *Platalina genovensium* were collected at 12.9 km N of Tamarindo, La Brea, province of Talara, department of Piura, Peru (04°45′59.1″ S, 80°59′29.5″ W) (Velazco *et al.* 2013: Figure 1). Both specimens were captured on 19 October 2012 at 19:30 h using ground level mistnets. During the same night four *Glossophaga soricina* (Pallas, 1766) and one *Promops davisoni* Thomas, 1921 were caught. The habitat where the *Platalina* specimens were captured was a woodland savannah characterized by the presence of *Prosopis pallida* (Fabaceae), *Acacia macracantha* (Fabaceae), *Parkinsonia aculeata* (Fabaceae), *Colicodendron scabridum* (Capparaceae), *Capparis avicennifolia* (Capparaceae), *Psittacanthus chanduyensis* (Loranthaceae), and the introduced species *Casuarina equisetifolia* (Casuarinaceae) (Figure 1). Bats were preserved in 10% formalin and maintained in 70% ethanol. Additionally tissues and ectoparasites were collected aseptically and stored in 95% ethanol prior to preservation of the vouchers in formalin. Bat vouchers are deposited at the American Museum of Natural History, New York, USA (AMNH) and the Centro de Ecología y Biodiversidad, Lima, Peru (CEBIO). All collecting and animal handling procedures followed the recommended protocol defined in the Guidelines of the American Society of Mammalogists for the use of wild mammals in research (Sikes *et al.* 2011). The collection of the specimens occurred under the authorization of the Ministerio de Agricultura (Collection Permit No. 393-2012-AG-DGFFS-DGEFFS).

Four ectoparasite insects were collected from one of the *Platalina* specimens (CEBIOMAS 224 - ♂, figure 2). In

FIGURE 1. Overview of the habitat where the specimen of *Platalina genovensium* (CEBIOMAS 224 - ♂), host of the *Speiseria ambigua* specimens, was collected.

Figure 2. Live photograph of the specimen of *Platalina genovensium* (CEBIOMAS 224 - ♂), host of the *Speiseria ambigua* specimens reported by this report, collected 12.9 km N of Tamarindo, La Brea, Talara, Piura, Peru. Photo by Richard Cadenillas.

Figure 3. Dorsal view of a male *Speiseria ambigua* Kessel, 1925. Scale bar = 1 mm.

the laboratory, two ectoparasite specimens (1 male and 1 female) were prepared following standard techniques for their posterior examination using a light microscopy. Additionally, the genitalia of one male was extracted and fixed with Canada Balsam. The ectoparasites are deposited at the American Museum of Natural History, New York, USA (AMNH 66209 [1 male and 1 female preserved in 95% ethanol]) and the Colección de Anexos de la Colección Mamíferos Lillo (CML) de la Facultad de Ciencias Naturales e Instituto Miguel Lillo, Universidad Nacional de Tucumán, Argentina y Fundación Miguel Lillo (prepared specimens, 1 male and 1 female).

The four ectoparasite insects were identified as *Speiseria ambigua* Kessel, 1925 (Diptera: Streblidae) (Figure 3 and 4). Currently the genus *Speiseria* includes three species: *Sp.* ambigua; *Sp. magniocolus* Wenzel, 1976; and *Sp. peytoni* Wenzel, 1976. *Speiseria ambigua* is characterized by: the presence of eyes with usually 9 facets, usually widest at midlength; palpi elongate-oval, oblique, not transverse; theca with approximately 18 setae; setae along median portion of posterior margin of sternum 2 distinctly finer and longer than those toward sides (Wenzel 1976). Females of *Sp. ambigua* are characterized by the tergum 7 elongate, usually with subparallel sides and distinctly longer than supra-anal plate and cerci combined, whereas males have the sternum 7 + 8 with 4–6, tergum 9 with 9–10 setae, and the apices of postgonites strongly curved.

Throughout its distribution, *Sp. ambigua* parasitize primarily *Carollia perspicillata* (Dick and Gettinger 2005). However, *Sp. ambigua* is also known to parasitize bats of the following species: *Pteronotus parnellii* (Gray, 1843) (Mormoopidae); *Anoura caudifer* (É. Geoffroy St-Hilaire, 1818); *An. geoffroyi* Gray, 1838; *Artibeus lituratus* (Olfers, 1818); *Ar. planirostris* (Spix, 1823); *Dermanura watsoni* (Thomas, 1901); *Carollia castanea* Allen, 1890; *C. brevicauda* (Schinz, 1821); *C. perspicillata* (Linnaeus, 1758); *C. subrufa* (Hahn, 1905); *Desmodus rotundus* (É. Geoffroy St-Hilaire, 1810); *Diphylla ecaudata* Spix, 1823;

Figure 4. Male genitalia of *Speiseria ambigua* Kessel, 1925. A, Lateral view of the aedeagus and gonapophysis; B, gonapophyseal macroseta.

Glossophaga leachii Gray, 1844; *G. longirostris* Miller, 1898; *G. soricina* (Pallas, 1766); *Lonchophylla robusta* Miller, 1912; *Lon. thomasi* Allen, 1904; *Lonchorhina aurita* Tomes, 1863; *Micronycteris megalotis* (Gray, 1842); *Phylloderma stenops* Peters, 1865; *Phyllostomus hastatus* (Pallas, 1767); *Platyrrhinus vittatus* (Peters, 1859); *Sturnira lilium* (É. Geoffroy St-Hilaire, 1810); *St. ludovici* Anthony, 1924; *Trachops cirrhosus* (Spix, 1823) (Phyllostomidae); *Natalus stramineus* Gray, 1838 (Natalidae); and *Myotis* sp. (Vespertilionidae). These species are not considered primary hosts (Wenzel *et al*. 1966; Wenzel 1970, 1976; Guerrero 1994, 1996, 1997; Barbier 2014). *Speiseria ambigua* is known to occur in Bolivia, Brazil, Colombia, French Guiana, Mexico, Panama, Paraguay, Peru, Trinidad, and Venezuela (Guerrero 1997; Dick and Gettinger 2005). In Peru, *Sp. ambigua* has been reported from the departments of Cuzco, Lambayeque, Lima, Loreto, Madre de Dios, and Pasco (Wenzel *et al.* 1966; Wenzel 1970; Guerrero 1994, 1996; Claps *et al.* 2005). Our record of *Sp. ambigua* is the northernmost record of this species in Peru and the first record for this species in the departament of Piura.

The only other ectoparasite species reported to parasitize *Platalina genovensium* is *Phalconomus* species B sensu Wenzel, 1976 (Streblidae). The five specimens (3 males and 2 females) know of *Phalconomus* sp. B were collected from *Platalina genovensium* specimens collected from Caravelí, near the city of Arequipa, Peru by Warren F. Walker in the late 1930s (Wenzel 1976). Wenzel (1976) described the genus *Phalcophila* to include three species: *Phalcophila puliciformis* Wenzel, 1976 parasite of the phyllostomid *Lonchophylla robusta* from Venezuela; *Phalcophila* species A Wenzel, 1976 parasite of the natalid *Natalus stramineus mexicanus* from Guatemala; and *Phalcophila* species B Wenzel, 1976 parasite of the phyllostomid *Platalina genovensium* from Peru. When Wenzel (1976) described the genus *Phacophila* he was not aware that three years earlier, Brennan and Reed (1973) proposed the same generic name for a new chigger mite (Acarina) that was collected during the same survey in Venezuela, making *Phalcophila* Wenzel, 1976 a junior homonym of *Phalcophila* Brennan and Reed, 1973. Because of this, Wenzel (1984) proposed the new generic name *Phalconomus* to include *puliciformis*, species A, and species B. Our record of *Sp. ambigua* represents the second known ectoparasite insect reported to parasitize individuals of *Platalina*.

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